

## Remarks

Claims 19-23 and 25-42 are now pending in this application. Applicants have amended claim 19 to clarify the present invention. Applicants respectfully request favorable reconsideration of this application.

The Examiner rejected claims 19-24, 26, 29-31, 33, 34, 38-40, and 42 under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent 3,942,100 to Kauferle et al. in view of U.S. patent 4,785,138 to Breitenbach et al. and U.S. patent 5,053,910 to Goldstein. The Examiner rejected claims 25, 35, and 36 under 35 U.S.C. § 103(a) as being unpatentable over Kauferle et al. in view of Breitenbach et al. in view of U.S. patent 5,716,574 to Kawasaki. The Examiner rejected claims 27 and 28 under 35 U.S.C. § 103(a) as being unpatentable over Kauferle et al. in view of Breitenbach et al. and Goldstein and further in view of Japanese patent document JP 06-261456. The Examiner rejected claim 32 under 35 U.S.C. § 103(a) as being unpatentable over Kauferle et al. in view of Breitenbach et al. and Goldstein and further in view of European patent 0 825 465 to Johansen. The Examiner rejected claims 37 and 41 under 35 U.S.C. § 103(a) as being unpatentable over Kauferle et al. in view of Breitenbach et al. and Goldstein and further in view of U.S. patent 6,441,712 to Ainsworth.

The combination of Kauferle et al., Breitenbach et al. and Goldstein does not suggest the present invention as recited in claim 19 since, among other things, the combination does not suggest a reactive element integrated into a transmission line. The Examiner asserts that Kauferle et al. discloses "at least one inductor **b** located along the of the cable **f** between the

switchgear units and integrated into the at least one extruded cable  $f$ ". However, Kauferle et al. does not suggest an installation where a reactive element is integrated into a transmission line. Fig. 1 of Kauferle et al. clearly shows that the main reactive element  $b$  is not integrated into the transmission line.

In fact, Kauferle et al. teaches away from the present invention. For example, at col. 1, lines 35-37, Kauferle et al. states, "arrangements connectable directly to the line are unable to fully limit over-voltages during start-up conditions." Additionally, at col. 1, lines 47-49, Kauferle et al. states, that an object of the invention is to provide "an improved reactive power compensator which avoids the above-mentioned disadvantages."

Kauferle et al. also clearly describe at col. 2, lines 58-66, that the main reactive element is not integrated since "excitation for the element  $b$  is not obtained directly from the line  $f$  or from a conventional distribution transformer connected to such line as in prior designs; instead, such excitation is provided by a high-voltage variable shunt reactance  $A$  having an exciting winding  $a$  connected in shunt with the line  $f$  at the junction  $d$ . A power winding  $a'$  of the shunt reactance is magnetically coupled to the exciting winding  $a$  and serves as the power feed for the element  $b$ ". Kauferle et al. also does not suggest an extruded cable. In fact, the specification of Kauferle et al. does not include the word "cable" or "extruded cable". Rather, Kauferle et al. suggests a transmission line.

Moreover, Kauferle et al. does not suggest the problem of capacitive currents generated in transmission lines comprising a cable or the increase of capacitive currents with increasing

length of the transmission line. Kauferle et al. suggests a reactive power compensator to solve other problems, such as instabilities in line frequency and voltage and transient overvoltages due to abrupt changes in operating conditions. A person skilled in the art would identify the problem mentioned above with long power transmission lines including a cable, which implies that the transmission line f of Kauferle et al. is not a cable but an overhead line. This feature in connection with Fig. 1 further implies that Kauferle et al. does not disclose a reactive element that is integrated into the transmission line.

The Examiner asserts further that it would have been obvious to one having ordinary skill in the art at the time the present invention was made to combine the extruded cable suggested by Breitenbach et al. to the reactive power compensator of Kauferle et al.. Breitenbach et al. suggests an extruded cable that satisfies the requirements of a phase winding of a linear motor. According to the Examiner, the motivation to combine these references would have been due to the capability of the reactive power compensator to improve the stability of the transmission system. However, the Examiner does not explain why one of ordinary skill in the art having already improved the stability of the transmission system as suggested by Kauferle et al. would look for a solution to improve the stability even further in Breitenbach et al., which suggests two phase windings of linear motors.

Even if one of ordinary skill in the art made this modification suggested by the Examiner Breitenbach et al. does not suggest improving stability of a transmission system or increasing current handling capacity by the use of one or more inductors for reactive shunt compensation. Viewing Breitenbach et al. as a starting point, one skilled in the technical field of electric cables

for phase windings of linear motors would not look for a solution to improve the stability in a transmission system and would therefore not find Kauferle et al. Even if such a person make the combination, the result would not be the present invention as recited in claim 19, which includes one or more inductors are integrated into the cable.

Goldstein suggests means for providing protection from transient voltage surges induced in coaxial cables and the like for carrying television signals from antenna systems or cable television distribution services. This is described at col. 1, lines 13-17. A surge suppression network is built into a coaxial housing 19, and includes a shunt inductor L1 shunting the center conductor at an intermediate point to the housing. This is described in the abstract and at col. 6, lines 49-52, in connection with Figs. 1, 2, 4 and 5.

The Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time the present invention was made to combine the coaxial housing and the inductor being arranged in the housing suggested by Goldstein with the structure suggested by Kauferle et al. in view of Breitenbach et al. According to the Examiner the motivation would have been for adjusting the reactance of the line for transmission efficiency. However, one skilled in the art of long power transmission lines including an extruded cable and reactive power compensators would not look for a solution to adjust the reactance of power transmission lines among documents concerning coaxial cables and the like which carry television signals from antenna systems. Such television signals only have a voltage level of a few volts and a coaxial cable is a cable used for transmission of electronic signals, consisting of a conducting outer metal tube insulated from a central conducting core. Even if one skilled in the art somehow looked to

Goldstein for a solution to problems in power transmission lines, nothing in Goldstein suggests adjusting the reactance of a line for transmission efficiency or increased current handling capacity utilizing one or more inductors for reactive shunt compensation, which is a feature of the present invention as recited in claim 19.

In view of the above, the combination of Kauferle et al., Breitenbach et al. and Goldstein does not suggest the present invention as recited in claims 19-24, 26, 29-31, 33, 34, 38-40, and 42.

The combination of Kauferle et al., Breitenbach et al. and Kawasaki does not suggest the present invention as recited in claims 25, 35, and 36, which depend from claim 19, since, among other things, Kawasaki does not overcome the above-described deficiencies of Kauferle et al. or Breitenbach et al. The Examiner only cites Kawasaki as suggesting cross-linked polyethylene. Cross-linked polyethylene does not suggest the aspects of the present invention as recited in claim 19 and not suggested by Kauferle et al. or Breitenbach et al. and does not provide motivation or suggestion to combine Kauferle et al. and Breitenbach et al. Therefore, the present invention as recited in claims 25, 35, and 36 is not obvious in view of the combination of Kauferle et al., Breitenbach et al. and Kawasaki.

The combination of Kauferle et al., Breitenbach et al. Goldstein and Japanese patent document JP 06-261456 does not suggest the present invention as recited in claims 27 and 28, which depend from claim 19, since, among other things, Japanese patent document JP 06-261456 does not overcome the above-described deficiencies of Kauferle et al., Breitenbach et al. and

Goldstein. The Examiner only cites Japanese patent document JP 06-261456 as suggesting a completely or partially buried cable. A completely or partially buried cable does not suggest the aspects of the present invention as recited in claim 19 and not suggested by Kauferle et al., Breitenbach et al. and Goldstein and does not provide motivation or suggestion to combine Kauferle et al., Breitenbach et al. and Goldstein. Therefore, the present invention as recited in claims 27 and 28 is not obvious in view of the combination of Kauferle et al., Breitenbach et al. Goldstein and Japanese patent document JP 06-261456.

The combination of Kauferle et al., Breitenbach et al. Goldstein and European patent 0 825 465 to Johansen does not suggest the present invention as recited in claim 32, which depends from claim 19, since, among other things, Johansen does not overcome the above-described deficiencies of Kauferle et al., Breitenbach et al. and Goldstein. The Examiner only cites Johansen as suggesting an optical fiber laid along a cable or integrated in the cable for use of a device for protection of the installation and/or commercial communication within the installation and/or with the surrounding. An optical fiber laid along a cable or integrated in the cable for use of a device for protection of the installation and/or commercial communication within the installation and/or with the surrounding do not suggest the aspects of the present invention as recited in claim 19 and not suggested by Kauferle et al., Breitenbach et al. and Goldstein and does not provide motivation or suggestion to combine Kauferle et al., Breitenbach et al. and Goldstein. Therefore, the present invention as recited in claim 32 is not obvious in view of the combination of Kauferle et al., Breitenbach et al. Goldstein and Johansen.

The combination of Kauferle et al., Breitenbach et al. Goldstein and U.S. patent

6,441,712 to Ainsworth does not suggest the present invention as recited in claims 37 and 41, which depend from claim 19, since, among other things, Ainsworth does not overcome the above-described deficiencies of Kauferle et al., Breitenbach et al. and Goldstein. The Examiner only cites Ainsworth as an installation designed for a maximum transmissible power via an ac voltage line of 50 MW-600 MW and an inductor for a reactive power of 5-30 MVAR. A an installation designed for a maximum transmissible power via an ac voltage line of 50 MW-600 MW and an inductor for a reactive power of 5-30 MVAR do not suggest the aspects of the present invention as recited in claim 19 and not suggested by Kauferle et al., Breitenbach et al. and Goldstein and does not provide motivation or suggestion to combine Kauferle et al., Breitenbach et al. and Goldstein. Therefore, the present invention as recited in claims 37 and 41 is not obvious in view of the combination of Kauferle et al., Breitenbach et al. Goldstein and Ainsworth.

In view of the above, the cited references, whether considered alone or in combination, do not suggest patentable features of the claimed invention. Therefore, the cited references, whether considered alone or in combination, do not make the claimed invention obvious. Accordingly, Applicant submits that the claimed invention is patentable over the cited references.

If an interview would advance the prosecution of this application, Applicant respectfully urges the Examiner to contact the undersigned at the telephone number listed below.

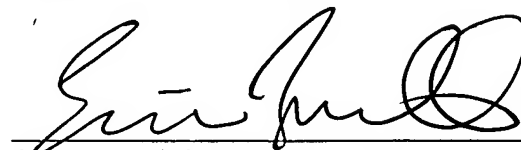
The undersigned authorizes the Commissioner to charge insufficient fees and credit

overpayment associated with this communication to Deposit Account No. 22-0261.

Respectfully submitted,

Date: \_\_\_\_\_

2/8/08

A handwritten signature in black ink, appearing to read "Eric J. Franklin", written over a horizontal line.

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